OCEAN ENGINEERING

VOLUME 31, 2004

CONTENTS & AUTHOR INDEX

Editors-in-Chief

MICHAEL E. McCORMICK RAMESWAR BHATTACHARYYA

ELSEVIER

Aims and Scope of the Journal

Now that man has become accustomed to the idea of exploring space, he has turned his attention to the equally challenging task of exploring and making effective use of the oceans. It is already apparent that the rewards of this effort will include new scientific knowledge and understanding of the oceans, increased food production from them, and increased mineral, oil and gas resources. Working in an environment as hostile as a deep ocean presents engineering problems which are at least as challenging as those encountered in space exploration.

Ocean Engineering provides a medium for the publication of original research and devlopment work in this field. In recognition of the fact that many research and development workers are now entering it, occasional review articles by leading authorities are published.

Because the field of ocean engineering is rapidly expanding, it would be unwise to define the scope of the journal too precisely. Areas that are to be covered, fixed and floating, are the design and construction of structures (including ships), submarine soil mechanics, coastal engineering, properties and fabrication of materials, stress analysis and hydrodynamic properties of shells, underwater instrumentation, power and propulsion systems, aquacultural engineering and underwater acoustics. Work on marine resources will also be included.

Publication information: *Ocean Engineering* (ISSN 0029-8018). For 2004, volume 31 is scheduled for publication. Subscription prices are available upon request from the Publisher or from the Regional Sales Office nearest you or from this journal's website (http://www.elsevier.com/locate/onceaneng). Further information is available on this journal and other Elsevier products through Elsevier's website: (http://www.elsevier.com). Subscriptions are accepted on a prepaid basis only and are entered on a calender year basis. Issues are sent by standard mail (surface within Europe, air delivery outside Europe). Priority rates are available upon request. Claims for missing issues should be made within six months of the date of dispatch.

Orders, claims, and journal enquiries: please contact the Customer Service Department at the Regional Sales Office nearest you:

Orlando: Elsevier, Customer Service Department, 6277 Sea Harbor Drive, Orlando, FL 32887-4800, USA; phone: (+1) (877) 8397126 [toll free number for US customers], or (+1) (407) 3454020 [customers outside US]; fax: (+1) (407) 3631354; e-mail: usjcs@elsevier.com

Amsterdam: Elsevier, Customer Service Department, PO Box 211, 1000 AE Amsterdam, The Netherlands; phone: (+31) (20) 4853757; fax: (+31) (20) 4853432; e-mail: nlinfo-f@elsevier.com

Tokyo: Elsevier, Customer Service Department, 4F Higashi-Azabu, 1-Chome Bldg, 1-9-15 Higashi-Azabu, Minato-ku, Tokyo 106-0044, Japan; phone: (+81) (3) 5561 5037; fax: (+81) (3) 5561 5047; e-mail: jp.info@elsevier.com

Singapore: Elsevier, Customer Service Department, 3 Killiney Road, #08-01 Winsland House I, Singapore 239519; phone: (+65) 63490222; fax; (+65) 67331510; e-mail: asiainfo@elsevier.com

© 2004 Elsevier Ltd. All rights reserved.

This journal and the individual contributions contained in it are protected under copyright by Elsevier Ltd, and the following terms and conditions apply to their use:

Photocopying

Single photocopies of single articles may be made for personal use as allowed by national copyright laws. Permission of the publisher and payment of a fee is required for all other photocopying, including multiple or systematic copying, copying for advertising or promotional purposes, resale, and all forms of document delivery. Special rates are available for educational institutions that wish to make photocopies for non-profit educational classroom use.

Permissions may be sought directly from Elsevier's Rights Department in Oxford, UK; phone: (+44) 1865 843830; fax: (+44) 1865 853333; e-mail: permissions@elsevier.com. Requests may also be completed on-line via the Elsevier homepage (http://www.elsevier.com/locate/permissions).

In the USA, users may clear permissions and make payments through the Copyright Clearance Center, Inc., 222 Rosewood Drive, Danvers, MA 01923, USA; phone: (+1) (978) 7508400; fax: (+1) (978) 7504744, and in the UK through the Copyright Licensing Agency Rapid Clearance Service (CLARCS), 90 Tottenham Court Road, London W1P 0LP, UK; phone: (+44) 207 631 5555; fax: (+44) 207 631 5500. Other countries may have a local reprographic rights agency for payments.

Derivative Works

Subscribers may reproduce tables of contents or prepare lists of articles including abstracts for internal circulation within their institutions. Permission of the publisher is required for resale or distribution outside the institution.

Permission of the publisher is required for all other derivative works, including compilations and translations.

Electronic Storage or Usage

Permission of the publisher is required to store or use electronically any material contained in this journal, including any article or part of an article.

Except as outlined above, no part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without prior written permission of the publisher.

Address permissions requests to: Elsevier Rights Department, at the fax and e-mail addresses noted above.

Notice

No responsibility is assumed by the Publisher for any injury and/or damage to persons or property as a matter of products liability, negligence or otherwise, or from any use or operation of any methods, products, instructions or ideas contained in the material herein. Because of rapid advances in the medical sciences, in particular, independent verification of diagnoses and drug dosages should be made.

Although all advertising material is expected to conform to ethical (medical) standards, inclusion in this publication does not constitute a guarantee or endorsement of the quality or value of such product or of the claims made of it by its manufacturer.

♾ The paper used in this publication meets the requirements of ANSI/NISO Z39.48-1992 (Permanence of Paper).

VOLUME CONTENTS

Number 1

C. T. F. Ross, A. P. F. Little and C. Bartlett	1	The vibration of a large ring-stiffened prolate dome under external water pressure
J. G. Wang, B. Zhang and T. Nogami	21	Wave-induced seabed response analysis by radial point interpolation meshless method
N.-K. Liang, J.-S. Huang and C.-F. Li	43	A study of spar buoy floating breakwater
J. J. Jensen, A. E. Mansour and A. S. Olsen	61	Estimation of ship motions using closed-form expressions
Y. M. Shen, C. O. Ng and Y. H. Zheng	87	Simulation of wave propagation over a submerged bar using the VOF method with a two-equation k–ε turbulence modeling
C. C. Liang and W. H. Cheng	97	The optimum control of thruster system for dynamically positioned vessels
M.-C. Huang	111	Wave parameters and functions in wavelet analysis
	I	Calendar

Number 2

D. V. Bambill, S. La Malfa, C. A. Rossit and P. A. A. Laura	127	Analytical and experimental investigation on transverse vibrations of solid, circular and annular plates carrying a concentrated mass at an arbitrary position with marine applications
D. C. Hong, S. Y. Hong and S. W. Hong	139	Numerical study of the motions and drift force of a floating OWC device
N. Mori	165	Occurrence probability of a freak wave in a nonlinear wave field

C.-C. Liang, S.-W. Shiah, C.-Y. Jen and H.-W. Chen	177	Optimum design of multiple intersecting spheres deep-submerged pressure hull
B. Teng, D. Z. Ning and X. T. Zhang	201	Wave radiation by a uniform cylinder in front of a vertical wall
T.-L. Lee	225	Back-propagation neural network for long-term tidal predictions
C. T. F. Ross, A. P. F. Little, L. Chasapides, J. Banks and D. Attanasio	239	Buckling of ring stiffened domes under external hydrostatic pressure
	I	Calendar

Numbers 3–4

S. Gokcay, M. Insel and A. Y. Odabasi	253	Revisiting artificial air cavity concept for high speed craft
Y. Drobyshevski	269	Hydrodynamic coefficients of a floating, truncated vertical cylinder in shallow water
Y. Drobyshevski	305	Hydrodynamic coefficients of a two-dimensional, truncated rectangular floating structure in shallow water
M. Salih Kirkgöz and M. Mamak	343	Impulse modelling of wave impact pressures on vertical wall
A. Hayir	353	Ocean depth effects on tsunami amplitudes used in source models in linearized shallow-water wave theory
K. B. Nielsen and S. Mayer	363	Numerical prediction of green water incidents
A. S. Olsen	401	Energy coefficients for a propeller series
J.-Y. Liu, S.-H. Tsai and I.-C. Lin	417	Acoustic wave scattering from a rough seabed over a sediment layer with generalized-exponential density and inverse-square sound speed profiles
H. Kim	435	Practical spreading of driving forces for wave-driven currents

M. A. Jordán and R. Beltrán-Aguedo	455	Nonlinear identification of mooring lines in dynamic operation of floating structures
E. Korkut, M. Atlar and A. Incecik	483	An experimental study of motion behaviour with an intact and damaged Ro-Ro ship model
T. L. Walton Jr.	513	Technical note Linear systems analysis approach to inlet–bay systems
	I	Calendar

Numbers 5–6

S.-H. Kim and H. Yamato	523	An experimental study of the longitudinal motion control of a fully submerged hydrofoil model in following seas
P. Boccotti	539	A method to obtain the directional wave spectrum
B. Ren and Y. Wang	547	Numerical simulation of random wave slamming on structures in the splash zone
M. Lin and D.-S. Jeng	561	A 3-D model for ocean waves over a Columb-damping poroelastic seabed
K. D. Do and J. Pan	587	State- and output-feedback robust path-following controllers for underactuated ships using Serret–Frenet frame
B. Teng, X. T. Zhang and D. Z. Ning	615	Interaction of oblique waves with infinite number of perforated caissons
S. B. Yoon, Y.-S. Cho and C. Lee	633	Effects of breaking-induced currents on refraction–diffraction of irregular waves over submerged shoal
Y.-S. Cho, W.-C. Jeong and S.-B. Woo	653	Finite element method for strong reflection of water waves
L. Tao and S. Cai	669	Heave motion suppression of a Spar with a heave plate
W.-H. Cheng	693	A study of increasing the precision of navigation position for submerged body

O. Makarynskyy	709	Improving wave predictions with artificial neural networks
E. Vijayakrishna Rapaka, R. Natarajan and S. Neelamani	725	Experimental investigation on the dynamic response of a moored wave energy device under regular sea waves
C.-H. Tsai, M.-Y. Su and S.-J. Huang	745	Observations and conditions for occurrence of dangerous coastal waves
		Technical notes
A. D. Alkan, K. Gulez and H. Yilmaz	761	Design of a robust neural network structure for determining initial stability particulars of fishing vessels
Y.-P. Song, L.-Y. Song and G.-F. Zhao	779	Factors affecting corrosion and approaches for improving durability of ocean reinforced concrete structures
	791	Letter to the Editor
	I	Calendar

Number 7

X. Lu and P. Cui	795	The liquefaction and displacement of highly saturated sand under water pressure oscillation
M.-C. Huang	813	Wave parameters and functions in wavelet analysis with filtering
E. V. Buldakov, R. Eatock Taylor and P. H. Taylor	833	Local and far-field surface elevation around a vertical cylinder in unidirectional steep wave groups
C. Lee and S. B. Yoon	865	Effect of higher-order bottom variation terms on the refraction of water waves in the extended mild-slope equations
L. Guglielmini, P. Blondeaux and G. Vittori	883	A simple model of propulsive oscillating foils
R. Ojeda, B. Gangadhara Prusty and M. Salas	901	Finite element investigation on the static response of a composite catamaran under slamming loads
	I	Calendar

Numbers 8–9

D. Lee, J.-H. Park and H. Kim	931	A study on experiment of human behavior for evacuation simulation
J. Hua	943	Fate of dispersed marine fuel oil in sediment under pre-spill application strategy
E. Benini	957	Significance of blade element theory in performance prediction of marine propellers
K. H. Jung, K.-A. Chang and E. T. Huang	975	Two-dimensional flow characteristics of wave interactions with a fixed rectangular structure
M. Toscano-Jimenez and R. García-Tenorio	999	A three-dimensional model for the dispersion of radioactive substances in marine ecosystems. Application to the Baltic Sea after the Chernobyl disaster
Z. Feng and R. Allen	1019	Evaluation of the effects of the communication cable on the dynamics of an underwater flight vehicle
H.-H. Chen and C.-M. Wu	1037	An algorithm of image processing for underwater range finding by active triangulation
Y. H. Zheng, Y. G. You and Y. M. Shen	1063	On the radiation and diffraction of water waves by a rectangular buoy
Y. H. Zheng, Y. M. Shen, X. G. Wu and Y. G. You	1083	Determination of wave energy dissipation factor and numerical simulation of wave height in the surf zone
Y.-S. Cho, K.-Y. Park and T.-H. Lin	1093	Run-up heights of nearshore tsunamis based on quadtree grid system
O. Yagci, S. Kapdasli and H. K. Cigizoglu	1111	The stability of the antifer units used on breakwaters in case of irregular placement
S. M. Hasheminejad and M. Azarpeyvand	1129	Sound radiation from a liquid-filled underwater spherical acoustic lens with an internal eccentric baffled spherical piston
C. Guedes Soares, Z. Cherneva and E. M. Antão	1147	Steepness and asymmetry of the largest waves in storm sea states
A. Souto Iglesias, L. Pérez Rojas and R. Zamora Rodríguez	1169	Simulation of anti-roll tanks and sloshing type problems with smoothed particle hydrodynamics

A. Cemil Dikili	1193	Technical note A new approach for the solution of the two-dimensional guillotine-cutting problem in ship production
	I	Calendar

Number 10

U. A. Korde	1205	Study of a jet-propulsion method for an underwater vehicle
D. Lee, S.-S. Lee and B.-J. Park	1219	3-D geometric modeler for rapid ship safety assessment
E. Amromin, S. Kovinskaya and I. Mizine	1231	Quasi-linear theory of waves and ship wave resistance in restricted waters
A. Altunkaynak and M. Özger	1245	Temporal significant wave height estimation from wind speed by perceptron Kalman filtering
D. C. Hong, S. Y. Hong and S. W. Hong	1257	Numerical study on the reverse drift force of floating BBDB wave energy absorbers
D.-S. Hur	1295	Deformation of multi-directional random waves passing over an impermeable submerged breakwater installed on a sloping bed
N. K. Mandal, R. A. Rahman and M. S. Leong	1313	Experimental study on loss factor for corrugated plates by bandwidth method
Y.-S. Cho, J.-I. Lee and Y.-T. Kim	1325	Experimental study of strong reflection of regular water waves over submerged breakwaters in tandem
	I	Calendar

Numbers 11–12

M. E. McCormick and R. Bhattacharyya	1337	Professor Manley St. Denis
K. Thorburn, H. Bernho and M. Leijon	1339	Wave energy transmission system concepts for linear generator arrays
Y. Celikoğlu, Y. Yüksel and M. Sedat Kabdaşlı	1351	Longshore sorting on a beach under wave action

K. Günaydın and M. S. Kabdaşlı	1377	Performance of solid and perforated U-type breakwaters under regular and irregular waves
A. F. O. Falcão	1407	Stochastic modelling in wave power-equipment optimization: maximum energy production versus maximum profit
M. Mamun, Y. Kinoue, T. Setoguchi, T. H. Kim, K. Kaneko and M. Inoue	1423	Hysteretic flow characteristics of biplane Wells turbine
O. Yılmaz	1437	An iterative procedure for the diffraction of water waves by multiple cylinders
Y. Drobyshevski	1447	A note on uprighting of a ship floating upside-down
B. J. Koo, M. H. Kim and R. E. Randall	1469	The effect of nonlinear multi-contact coupling with gap between risers and guide frames on global spar motion analysis
D. Nehari, V. Armenio, F. Ballio and L. Adjlout	1503	A 3D investigation of the dynamic loads over an array of in-line cylinders at low *KC* and *Re* numbers
J.-H. Park, D. Lee, H. Kim and Y.-S. Yang	1537	Development of evacuation model for human safety in maritime casualty
J. C. Park, Y. Uno, T. Sato, H. Miyata and H. H. Chun	1549	Numerical reproduction of fully nonlinear multi-directional waves by a viscous 3D numerical wave tank
F. S. B. F. Oliveira	1567	Assessment of open boundary conditions on the elliptic formulation of the mild-slope equation
		Technical notes
S. Rao, C. Pramod and B. Rao	1577	Stability of berm breakwater with reduced armor stone weight
S. Zhang, Q. Zheng and X. Liu	1591	Finite element analysis of suction penetration seepage field of bucket foundation platform with application to offshore oilfield development
	I	Calendar

Number 13

S. Neelamani	1601	Sub aerial random wave pressure and layer thickness on impermeable sea walls

M. S. Kirkgoz, A. K. Tanrikulu and C. Dündar	1623	Dynamic analysis of a vertical plate exposed to breaking wave impact
S.-H. Kim and H. Yamato	1637	On the design of a longitudinal motion control system of a fully-submerged hydrofoil craft based on the optimal preview servo system
G. Duclos and A. H. Clément	1655	Wave propagation through arrays of unevenly spaced vertical piles
U. Demirci and F. Kerestecioğlu	1669	A re-configuring sliding-mode controller with adjustable robustness
P.-F. Chen and C.-H. Huang	1683	An inverse hull design approach in minimizing the ship wave
M. C. Khellaf and M. Bouhadef	1713	Technical note Modified mild slope equation and open boundary conditions
	I	Calendar

Numbers 14–15

R. Wan, W. Q. Huang, X. F. Song, F. X. Hu and T. Tokai	1725	Statics of a gillnet placed in a uniform current
U. Turker and M. S. Kabdaşlı	1741	Average sediment dislocation analysis for barred profiles
J. D. McConochie, T. A. Hardy and L. B. Mason	1757	Modelling tropical cyclone over-water wind and pressure fields
M. Dätig and T. Schlurmann	1783	Performance and limitations of the Hilbert–Huang transformation (HHT) with an application to irregular water waves
J. Evans and M. Nahon	1835	Dynamics modeling and performance evaluation of an autonomous underwater vehicle
M. A. Jordán and R. Beltrán-Aguedo	1859	Optimal identification of potential-radiation hydrodynamics for moored floating structures—a new general approach in state space

		Technical note
G. Rajasekaran and S. Narasimha Rao	1915	Falling cone method to measure the strength of marine clays
	I	Calendar

Number 16

R. Sadiq, T. Husain, B. Veitch and N. Bose	1929	Risk-based decision-making for drilling waste discharges using a fuzzy synthetic evaluation technique
Z.-J. You	1955	The effect of suspended sediment concentration on the settling velocity of cohesive sediment in quiescent water
K. D. Do, J. Pan and Z. P. Jiang	1967	Robust and adaptive path following for underactuated autonomous underwater vehicles
Y.-S. Song and T.-H. Kim	1999	Improvement of estuarine marine clays for coastal reclamation using vacuum-applied consolidation method
W. Koo and M.-H. Kim	2011	Freely floating-body simulation by a 2D fully nonlinear numerical wave tank
M. Zhao, B. Teng and L. Cheng	2047	A new form of generalized Boussinesq equations for varying water depth
	I	Calendar

Numbers 17–18

D.-S. Jeng, D. F. Cha and M. Blumenstein	2073	Neural network model for the prediction of wave-induced liquefaction potential
Y. H. Zheng, Y. M. Shen, Y. G. You, B. J. Wu and D. S. Jie	2087	On the radiation and diffraction of water waves by a rectangular structure with a sidewall
V. S. Kumar and N. M. Anand	2105	Variations in wave direction estimated using first and second order Fourier coefficients
K. E. Steele and D. W. Wang	2121	Question of the pitch-roll buoy response to ocean waves as a simple harmonic oscillator?

A. B. Mahfouz	2139	Identification of the nonlinear ship rolling motion equation using the measured response at sea
D.-S. Hur, K. Ushiki and K. Iwata	2157	An experimental study of wave-induced flow and bottom topographical changes in tidal flats
B. J. Koo, M. H. Kim and R. E. Randall	2175	Mathieu instability of a spar platform with mooring and risers
P. Izquierdo, C. Guedes Soares, J. C. Nieto Borge and G. R. Rodríguez	2209	A comparison of sea-state parameters from nautical radar images and buoy data
W. W. Pandoe and B. L. Edge	2227	Cohesive sediment transport in the 3D-hydrodynamic-baroclinic circulation model. Study case for idealized tidal inlet
H. B. Moraes, J. M. Vasconcellos and R. G. Latorre	2253	Wave resistance for high-speed catamarans
V. Bhatt, A. Sarkar, R. Kumar, S. Basu and V. K. Agarwal	2283	Impact of Oceansat-I MSMR data on analyzed oceanic winds and wave predictions
K. A. Roopsekhar and V. Sundar	2295	Regular wave pressures and forces on submerged pipelines near a sloping boundary
		Technical notes
S. Chandrasekaran, A. K. Jain and N. R. Chandak	2319	Influence of hydrodynamic coefficients in the response behavior of triangular TLPs in regular waves
V. Sanil Kumar and M. C. Deo	2343	Design wave estimation considering directional distribution of waves
N. K. Mandal, R. A. Rahman and M. Salman Leong	2353	Corrigendum
	2355	Book reviews
	I	Index title page for volume 31
	XVII	Calendar